

Contents

Volume 106 1989

Patrick, T. D., Lewer, C. E. and Pain, V. M. Preparation and characterization of cell-free protein synthesis systems from oocytes and eggs of <i>Xenopus laevis</i>	1	Karr, T. L. and Kornberg, T. B. <i>fushi tarazu</i> protein expression in the cellular blastoderm of <i>Drosophila</i> detected using a novel imaging technique	95
Van den Eynde, H., Mazabraud, A. and Denis, H. Biochemical research on oogenesis. RNA accumulation in the oocytes of the newt <i>Pleurodeles waltl</i>	11	Bissen, S. T. and Weisblat, D. A. The duration and compositions of cell cycles in embryos of the leech, <i>Helobdella triserialis</i>	105
Garzino, V., Berenger, H. and Pradel, J. Expression of laminin and of a laminin-related antigen during early development of <i>Drosophila melanogaster</i>	17	Gard, A. L. and Pfeiffer, S. E. Oligodendrocyte progenitors isolated directly from developing telencephalon at a specific phenotypic stage: myelinogenic potential in a defined environment	119
Fundele, R., Norris, M. L., Barton, S. C., Reik, W. and Surani, M. A. Systematic elimination of parthenogenetic cells in mouse chimaeras	29	Maine, E. M. and Kimble, J. Identification of genes that interact with <i>glp-1</i> , a gene required for inductive cell interactions in <i>Caenorhabditis elegans</i>	133
Beddington, R. S. P., Morgernstern, J., Land, H. and Hogan, A. An <i>in situ</i> transgenic enzyme marker for the midgestation mouse embryo and the visualization of inner mass clones during early organogenesis	37	Ambrosio, L., Mahowald, A. P. and Perrimon, N. <i>l(1)pole hole</i> is required maternally for pattern formation in the terminal regions of the embryo	145
Knox, J. P., Day, S. and Roberts, K. A set of cell surface glycoproteins forms an early marker of cell position, but not cell type, in the root apical meristem of <i>Daucus carota</i> L.	47	Bloom, T. L. The effects of phorbol ester on mouse blastomeres: a role for protein kinase C in compaction	159
Simpson, P. and Carteret, C. A study of <i>shaggy</i> reveals spatial domains of expression of <i>achaete-scute</i> alleles on the thorax of <i>Drosophila</i>	57	Ruiz I Altaba, A. and Melton, D. A. Bimodal and graded expression of the <i>Xenopus</i> homeobox gene <i>Xhox3</i> during embryonic development	173
Taylor, M., Treisman, R., Garrett, N. and Mohun, T. Muscle-specific (CArG) and serum-responsive (SRE) promotor elements are functionally interchangeable in <i>Xenopus</i> embryos and mouse fibroblasts	67	Anderson, H. and Tucker, R. P. Spatial and temporal variation in the structure of the basal lamina in embryonic grasshopper limbs during pioneer neurone outgrowth	185
Paterno, G. D., Gillespie, L. L., Dixon, M. S., Slack, J. M. W. and Heath, J. K. Mesoderm-inducing properties of INT-2 and kFGF: two oncogene-encoded growth factors related to FCF	79	Sabbag, K. R., Casanova, J. E. and Grabel, L. B. Plasminogen activator expression in F9 teratocarcinoma embryoid bodies and their endoderm derivatives	195
Kalcheim, C. and Teillet, M.-A. Consequences of somite manipulation on the pattern of dorsal root ganglion development	85	Gillespie, L. L., Paterno, G. D. and Slack, J. M. W. Analysis of competence: receptors for fibroblast growth factor in early <i>Xenopus</i> embryos	203

Contents

ESSAY IN DEVELOPMENT

Meyerowitz, E. M., Smyth, D. R.
and Bowman, J. L.

Abnormal flowers and pattern formation in floral
development 209

CONTRIBUTED PAPERS

Higgins, S. J., Young, P., Brody, J. R.
and Cunha, G. R.

Induction of functional cytodifferentiation in the
epithelium of tissue recombinants. I. Homotypic
seminal vesicle recombinants 219

Higgins, S. J., Young, P. and Cunha, G. R.

Induction of functional cytodifferentiation in the
epithelium of tissue recombinants. II. Instructive
induction of Wolffian duct epithelia by neonatal
seminal vesicle mesenchyme 235

Roller, R. J., Kinloch, R. A., Hiraoka, B. Y.,
Li, S. S.-L. and Wassarman, P. M.

Gene expression during mammalian oogenesis
and early embryogenesis: quantification of three
messenger RNAs abundant in fully grown mouse
oocytes 251

Collier, J. R.

Cytoplasmic regulation of translation during
Ilyanassa embryogenesis 263

Krone, P. H. and Heikkila, J. J.

Expression of microinjected hsp 70/CAT and hsp
30/CAT chimeric genes in developing *Xenopus*
laevis embryos 271

Kamalati, T., Howard, M. and Brooks, R. F.

IGF I induces differentiation in a transformed
human keratinocyte line 283

Fournier Le Ray, C., Renaud, D. and Le
Douarin, G. H.

Change in motor neurone activity modifies the
differentiation of a slow muscle in chick embryo 295

Gandolfi, F., Brevini, T. A. L., Richardson, L.,
Brown, C. R. and Moor, R. M.

Characterization of proteins secreted by sheep
oviduct epithelial cells and their function in
embryonic development 303

Godement, P. and Bonhoeffer, F.

Cross-species recognition of tectal cues by retinal
fibers *in vitro* 313

Nagy, A., Sass, M. and Markkula, M.

Systematic non-uniform distribution of
parthenogenetic cells in adult mouse chimaeras 321

Dean, W. L., Seufert, A. C., Schultz, G. A.,
Prather, R. S., Simerly, C., Schatten, G.,
Pilch, D. R. and Marzluff, W. F.

The small nuclear RNAs for pre-mRNA splicing
are coordinately regulated during oocyte
maturation and early embryogenesis in the mouse 325

Martin, P., Khan, A. and Lewis, J.

Cutaneous nerves of the embryonic chick wing do
not develop in regions denuded of ectoderm 335

Sliter, T. J.

Imaginal disc-autonomous expression of a defect
in sensory bristle patterning caused by the
lethal(3)ecdysoneless¹ (l(3)ecd¹) mutation of
Drosophila melanogaster 347

Wessel, G. M., Zhang, W., Tomlinson, C. R.,
Lennarz, W. J. and Klein, W. H.

Transcription of the Spec 1-like gene of
Lytechinus is selectively inhibited in response to
disruption of the extracellular matrix 355

Kleene, K. C.

Poly(A) shortening accompanies the activation of
translation of five mRNAs during spermiogenesis
in the mouse 367

ffrench-Constant, C. and Hynes, R. O.

Alternative splicing of fibronectin is temporally
and spatially regulated in the chicken embryo 375

Gandelman, K.-Y., Pfeiffer, S. E.
and Carson, J. H.

Cyclic AMP regulation of P0 glycoprotein and
myelin basic protein gene expression in semi-
differentiated peripheral neurinoma cell line
D6P2T 389

Jonas, E. A., Snape, A. M. and Sargent, T. D.

Transcriptional regulation of a *Xenopus*
embryonic epidermal keratin gene 399

Ezzell, R. M., Chafel, M. M.
and Matsudaira, P. T.

Differential localization of villin and fimbrin
during development of the mouse visceral
endoderm and intestinal epithelium 407

ESSAY IN DEVELOPMENT

Tyson, J. J. and Murray, J. D.

Cyclic AMP waves during aggregation of
Dictyostelium amoebae 421

CONTRIBUTED PAPERS

Schoenwolf, G. C. and Alvarez, I. S.

Roles of neuroepithelial cell rearrangement and
division in shaping avian neural plate 427

Nakatsuji, N. and Nagata, I. Paradoxical perpendicular contact guidance displayed by mouse cerebellar granule cell neurons <i>in vitro</i>	441	Ohlsson, R., Larsson, E., Nilsson, O., Wahlström, T. and Sundström, P. Blastocyst implantation precedes induction of insulin-like growth factor II gene expression in human trophoblasts	555
Kulyk, W. M., Upholt, W. B. and Kosher, R. A. Fibronectin gene expression during limb cartilage differentiation	449	Bachvarova, R., Cohen, E. M., De Leon, V., Tokunaga, K., Sakiyama, S. and Paynton, B. V. Amounts and modulation of actin mRNAs in mouse oocytes and embryos	561
Breitman, M. L., Bryce, D. M., Giddens, E., Clapoff, S., Goring, D., Tsui, L.-C., Klintworth, G. K. and Bernstein, A. Analysis of lens cell fate and eye morphogenesis in transgenic mice ablated for cells of the lens lineage	457	Hurley, D. L., Angerer, L. M. and Angerer, R. C. Altered expression of spatially regulated embryonic genes in the progeny of separated sea urchin blastomeres	567
Wilkinson, D. G., Bhatt, S., Ryseck, R.-P. and Bravo, R. Tissue-specific expression of <i>c-jun</i> and <i>junB</i> during organogenesis in the mouse	465	Bo, J. and Wensink, P. C. The promoter region of the <i>Drosophila</i> $\alpha 2$ -tubulin gene directs testicular and neural specific expression	581
Mangiarotti, G., Bulfone, S., Giorda, R., Morandini, P., Ceccarelli, A. and Hames, B. D. Analysis of specific mRNA destabilization during <i>Dictyostelium</i> development	473	Hitchcock, P. F. Exclusionary dendritic interactions in the retina of the goldfish	589
Chamak, B. and Prochiantz, A. Influence of extracellular matrix proteins on the expression of neuronal polarity	483	Klein, S. L. and Moody, S. A. Lithium changes the ectodermal fate of individual frog blastomeres because it causes ectopic neural plate formation	599
Croucher, S. J. and Tickle, C. Characterization of epithelial domains in the nasal passages of chick embryos: spatial and temporal mapping of a range of extracellular matrix and cell surface molecules during development of the nasal placode	493	Hemmati Brivanlou, A. and Harland, R. M. Expression of an <i>engrailed</i> -related protein is induced in the anterior neural ectoderm of early <i>Xenopus</i> embryos	611
Elinson, R. P. and Pasceri, P. Two UV-sensitive targets in dorsoanterior specification of frog embryos	511	ESSAY IN DEVELOPMENT Hall, P. A. and Watt, F. M. Stem cells: the generation and maintenance of cellular diversity	619
Cooke, J. <i>Xenopus</i> mesoderm induction: evidence for early size control and partial autonomy for pattern development by onset of gastrulation	519	CONTRIBUTED PAPERS Kurki, P., Laasonen, A., Tan, E. M. and Lehtonen, E. Cell proliferation and expression of cytokeratin filaments in F9 embryonal carcinoma cells	635
Flanders, D. J., Rawlins, D. J., Shaw, P. J. and Lloyd, C. W. Computer-aided 3-D reconstruction of interphase microtubules in epidermal cells of <i>Datura stramonium</i> reveals principles of array assembly	531	Cameron, R. A., Fraser, S. E., Britten, R. J. and Davidson, E. H. The oral-aboral axis of a sea urchin embryo is specified by first cleavage	641
Brice, A. L., Cheetham, J. E., Bolton, V. N., Hill, N. C. W. and Schofield, P. N. Temporal changes in the expression of the insulin-like growth factor II gene associated with tissue maturation in the human fetus	543	Fechtel, K., Fristrom, D. K. and Fristrom, J. W. Prepupal differentiation in <i>Drosophila</i> : distinct cell types elaborate a shared structure, the pupal cuticle, but accumulate transcripts in unique patterns	649

Contents

Sorrell, J. M. and Caterson, B. Detection of age-related changes in the distributions of keratan sulfates and chondroitin sulfates in developing chick limbs: an immunocytochemical study		
Boisseau, S. and Simonneau, M. Mammalian neuronal differentiation: early expression of a neuronal phenotype from mouse neural crest cells in a chemically defined culture medium	657	
Saint-Jeannet, J.-P., Foulquier, F., Goridis, C. and Duprat, A.-M. Expression of N-CAM precedes neural induction in <i>Pleurodeles waltl</i> (Urodele, amphibian)	675	
Menoud, P. A., Debrot, S. and Schowing, J. Mouse neural crest cells secrete both urokinase- type and tissue-type plasminogen activators <i>in vitro</i>	685	
Tickle, C., Crawley, A. and Farrar, J. Retinoic acid application to chick wing buds leads to a dose-dependent reorganization of the apical ectodermal ridge that is mediated by the mesenchyme	691	
Wilson, S., Tonge, D. A. and Holder, N. Homing behaviour of regenerating axons in the amphibian limb	707	
Campbell, S. Melanogenesis of avian neural crest cells <i>in vitro</i> is influenced by external cues in the periorbital mesenchyme	717	
Campbell, G. L. and Caveney, S. <i>engrailed</i> gene expression in the abdominal segment of <i>Oncopeltus</i> : gradients and cell states in the insect segment	727	
Fredieu, J. R. and Mahowald, A. P. Glial interactions with neurons during <i>Drosophila</i> embryogenesis	739	
Dixon, J. E. and Kintner, C. R. Cellular contacts required for neural induction in <i>Xenopus</i> embryos: evidence for two signals		749
Pelton, R. W., Nomura, S., Moses, H. L. and Hogan, B. L. M. Expression of transforming growth factor $\beta 2$ RNA during murine embryogenesis		759
Brown, J., Cebra-Thomas, J. A., Bleil, J. D., Wassarman, P. M. and Silver, L. M. A premature acrosome reaction is programmed by mouse <i>t</i> haplotypes during sperm differentiation and could play a role in transmission ratio distortion		769
Tannahill, D. and Melton, D. A. Localized synthesis of the Vg1 protein during early <i>Xenopus</i> development		775
Morriss-Kay, G. and Tuckett, F. Immunohistochemical localisation of chondroitin sulphate proteoglycans and the effects of chondroitinase ABC in 9- to 11-day rat embryos		787
Shibuya, E. K. and Masui, Y. Molecular characteristics of cytotstatic factors in amphibian egg cytosols		799
Serbedzija, G. N., Bronner-Fraser, M. and Fraser, S. E. A vital dye analysis of the timing and pathways of avian trunk neural crest cell migration		809
Papaioannou, V. E., Mkandawire, J. and Biggers, J. D. Development and phenotypic variability of genetically identical half mouse embryos		817
Index of Authors and Titles		829
Subject Index		833

